APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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LSI LOGIC CORPORATION
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EXAMINER
PARK, I

ART UNIT	PAPER NUMBER
2182	10

DATE MAILED:

12/15/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2000* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☒ The proposed drawing correction filed on *16 October 2000* is: a)☒ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15)☒ Notice of References Cited (PTO-892)   18)☐ Interview Summary (PTO-413) Paper No(s). _____ .

16)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)   19)☐ Notice of Informal Patent Application (PTO-152)

17)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .   20)☐ Other: .

DETAILED ACTION

1.   Claims 1-20 are presented for examination.

Drawings

2.   The corrected or substitute drawings were received on Oct. 16, 2000. These drawings are acceptable.

Specification

3.   The disclosure is objected to because of the following informalities:

the phraseology "DTE read pointer register 440" in page 22, lines 27-28; and

the phraseology "next free pointer register 440" in page 23, lines 7-8.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6.   While applicant may be his or her own lexicographer, a term in a claim may not be given a

meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73

USPQ 482 (CCPA 1947). The term "the transfer control entries" in claim 1 is used by the claim

to mean "transfer extend entries," while the accepted meaning is "transfer extend entries."

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention
> thereof by the applicant for patent.

8.   Claims 1 and 5-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Garrett et

al., US patent No. 6,049,842.

As per claim 1, Garrett et al. (Garrett) teach a data controller (efficient data transfer

mechanism) comprising:

a transfer extend generator that generates (col. 3, lines 14-15) transfer extend entries for a

data transfer; and

at least one retrieval channel coupled to receive (col. 3, lines 42-43) the transfer control

entries for programming (col. 4, lines 4-6) the data transfer.

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10.   Claims 2, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bass et

al., US patent No. 4,262,332.

        As per claim 2, Bass et al teach a data controller that minimizes interrupts by processing

sequential commands (col. 4, lines 1-9).

11.   Claims 3 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Born et

al., US patent No. 6,081,849.

        As per claim 3, Born et al. (Born) teach a data controller (fig. 1), that is couplable to a

host and coupled to a storage medium, microprocessor, local storage and a buffer memory,

comprising a command queuing engine (col. 2, line 59-col. 3, lin 5) that creates and executes

threads of sequential commands (abstract; col. 17, lines 24-26) while minimizing (col. 16, lines

42-45) interrupts associated to the commands.

12.   Claims 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Krakirian, US patent

No. 5,781,803.

        As per claim 4, Krakirian teaches a peripheral device (fig. 3; col. 7, lines 8-25) that

includes a data controller, microprocessor, a buffer memory, local memory and a storage

medium, and that is couplable to a host, wherein the data controller creates threads of sequential

commands (col. 16, lines 24-26) and generates interrupts at the beginning and end of the

commands relative to a data transfer (col. 5, lines 21-33).

13.   As per claim 5, Garrett teaches a data retrieval channel and a status retrieval channel (col. 4, lines 14-17).

14.   As per claim 6, Garrett teaches the transfer extend generator stores (col. 2, lines 48-50) the transfer extend entries and the at least one retrieval channel retrieves (col. 3, lines 42-43) the transfer extend entries and programs (col. 4, lines 4-6) a corresponding data transfer.

15.   As per claim 7, Garrett teaches the at least one retrieval channel also programs a status context (col. 4, lines 14-22).

16.   As per claim 8, Garrett teaches the data retrieval channel programs a data context and the status retrieval channel programs a status context (col. 4, lines 7-22).

17.   As per claim 9, Garrett teaches the status retrieval channel monitors (col. 4, lines 32-35) a data transfer between a buffer memory (FIFO 25) and a storage medium (memory 12).

18.   As per claim 10, Garrett teaches the data controller is coupled to a first storage device (descriptor prefetch queue 27) that stores the transfer extend entries.

19.   As per claim 11, Garrett teaches the at least one retrieval channel provides used read pointers for reuse (col. 2, lines 65-67).

20.   As per claim 12, Bass teaches a command queuing engine (col. 4, lines 15-24).

21.   As per claim 13, Bass teaches the command queuing engine includes a transfer extend generator (col. 11, lines 35-50) and a data retrieval channel.

22.   As per claim 16, Born teaches the command queuing engine includes a transfer extend generator generating transfer extend entries (col. 2, lines 59-67).

23.   As per claim 17, Born teaches the transfer extend generator is coupled to the buffer memory to store the transfer extend entries (col. 5, lines 50-62).

24.   As per claim 18, Born teaches the command queuing engine includes a data retrieval channel (col. 1, lines 62-65).

25.   As per claim 19, Born teaches the command queuing engine includes a status retrieval

channel (col. 1, lines 62-65).

26.   As per claim 20, Born teaches the data retrieval channel is coupled to the buffer memory

to retrieve transfer extend entries (col. 5, lines 50-62) and to return to used read pointers (col. 8,

lines 10-27).

Claim Rejections - 35 USC § 103

27.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

28.   Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et

al. (Bass), US patent No. 4,262,332 as applied to claim 2 above, and further in view of Garrett et

al., US patent No. 6,049,842

        As per claim 14, Garrett et al. (Garrett) teach a command queuing engine including a

status retrieval channel (col. 4, lines 14-17). Specially, Garrett teaches a data transfer mechanism

having a I/O device for command queuing.

        Therefore, it would have been obvious to one of ordinary skill in the art to combine the

teachings of Bass and Garrett because they both teach command queuing for data transfer and the

Garrett's teaching of the status retrieval channel would increase efficiency in handling commands

in Bass' teaching.

As per claim 15, Garrett et al. (Garrett) teach each of the retrieval channels are coupled to

receive (col. 3, lines 42-43) transfer extend entries and to provide (col. 2, lines 65-67) used read

pointers.

Conclusion

29.   Any inquiry concerning this communication should be directed to Ilwoo Park, whose

telephone number is (703) 308-7811 or via E-mail, *ilwoo.park@uspto.gov*. The Examiner can

normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Thomas C. Lee, can be reached at (703) 305-9717.

Any inquiry of a general nature of relating to the status of this application should be

directed to the Group receptionist whose telephone number is (703) 305-9600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

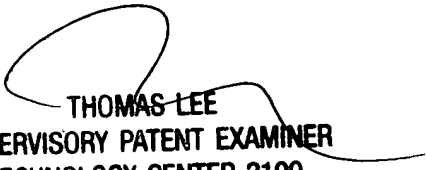(703) 308-9051 (for formal communications intended for entry)

or:

(703)305-3718 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington. VA., Sixth Floor (Receptionist).

Ilwoo Park

December 7, 2000

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